Validation Instruments for Local Culture-Based Learning Media

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A B S T R A K

Diperlukan alat untuk menilai kualitas media agar dapat menjadi media pembelajaran yang efektif. Oleh karena itu, penciptaan media pendidikan sangatlah penting, terutama yang berakar pada cara hidup masyarakat setempat. Tujuan penelitian ini adalah untuk bertujuan untuk menghasilkan instrumen validasi produk media pembelajaran berdasarkan aspek desain dan media, khususnya media pembelajaran berbasis budaya yang memenuhi validitas dan reliabilitas. Model penelitian dan pengembangan 3D (define, design,develop) digunakan dalam penelitian ini. Tiga orang ahli yang bertindak sebagai validator instrumen menjadi sumber data. Kuesioner berupa lembar penilaian media dan alat desain pembelajaran digunakan sebagai bagian dari metode pengumpulan data. Uji reliabilitas dan validitas merupakan dua jenis pendekatan analisis data. Analisis deskriptif kemudian dilakukan terhadap data yang dikumpulkan. Penelitian menghasilkan 15 pernyataan yang akan dijadikan instrumen penilaian ahli desain dan 10 pernyataan yang akan dijadikan instrumen penilaian ahli media pembelajaran. Penilaian ahli menunjukkan bahwa alat penilaian media dan desain pembelajaran dapat diterapkan untuk diterapkan. Selain itu, kedua instrumen tersebut mempunyai validitas empirik yang kuat. Temuan penelitian ini diharapkan dapat memajukan pengetahuan, khususnya di bidang pengembangan alat untuk mengevaluasi spesialis di bidang media dan desain pembelajaran.

A B S T R A C T

A tool for evaluating the media's quality is necessary for it to be an effective learning medium. Thus, the creation of educational media is essential, particularly those that are rooted in the local way of life. The aim of this research is to generate validation instruments for learning media products based on design and media aspects, particularly for culturally based learning media, that exhibit both validity and reliability. The 3D research and development model (define, design, develop) is used in this study. Three specialists who act as instrument validators make up the data sources. A questionnaire in the form of an assessment sheet for media and instructional design tools is used as part of the data gathering method. Tests for reliability and validity are two types of data analysis approaches. A descriptive analysis is then performed on the gathered data. The research yielded 15 statements that will serve as expert design evaluation instruments and 10 statements that will serve as expert instructional media assessment instruments. Expert assessments show that the assessment tools for instructional media and design are applicable for application. Furthermore, both instruments have strong empirical validity. It is anticipated that the findings of this study will advance knowledge, particularly in the area of developing tools for evaluating specialists in media and instructional design.

1. INTRODUCTION

One of the most important strategies for efficiently providing instructional content is the use of learning media. Empirical research in the realm of education lends credence to this claim. Studies have continually demonstrated the importance of learning media as a means of delivering instruction. Furthermore, empirical data emphasises how important it is to create educational media in compliance with accepted media development principles, as this enhances the media's overall efficacy in the learning process (Brame, 2016; Salam et al., 2018). When taking into account the actual results pertaining to the creation of learning media, the significance of this tactic becomes even more apparent. Research has indicated that giving due consideration to the circumstances of students, surrounding circumstances, and learning goals at the time of production greatly improves the effect that learning media have on the educational process (J Southworth, 2021; James Southworth, 2022). These empirical findings support the idea that well considered learning media creation, accounting for a variety of elements, eventually results in more successful instructional outcomes. The importance of teaching methods and learning media for educators is underscored by research conducted. These studies emphasize that the success of learning media hinges on careful development (Cheng et al., 2019; Sari et al., 2020; Widiana & Widiani, 2023). Additionally, the validation of learning media is identified as a crucial step in ensuring their scientific reliability. Furthermore, the role of learning media in conveying information and values to learners is highlighted, with

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research by previous study emphasizing the significance of integrating elements of local culture (Rosdiana et al., 2021). The empirical evidence suggests that the diversity of local culture, including traditions, language, and values, holds great potential as a foundation for deep and meaningful learning. However, despite this potential, the lack of specific validation instruments for culturally-based local learning media is evident, as noted by previous studies (Baka et al., 2018; Devianty, 2017; Laksana, 2024). This empirical gap underscores the need for further steps to ensure the relevance and effectiveness of culturally-based learning resources in an educational context.

Developing validation instruments for learning media is a crucial step in ensuring that the media is truly effective in achieving desired learning objectives. Some reasons why the validation of learning media instruments is necessary include measuring learning effectiveness, assessing content relevance, evaluating student engagement, measuring readability and comprehension, ensuring consistency and uniformity, assessing technical aspects and graphic design, boosting teacher confidence, and supporting the development of better media (Laksana et al., 2024; Widiana et al., 2019). The results of instrument validation can provide valuable feedback for the development of better learning media in the future. This helps engage in a continuous improvement cycle to enhance the quality of learning. By developing validation instruments, learning media developers can ensure that their efforts in designing learning media contribute positively to the student learning process (Paul & Cochran, 2020; Samri et al., 2020).

Learning media is defined as a carrier of messages intended to be delivered to learners with the aim of achieving learning objectives. Currently, the role of learning media significantly contributes to the success of the learning process. Previous study state that the learning media used by teachers in creating quality learning experiences has a direct impact on academic achievement, influenced by learning interest, enabling faster mastery of learning material (Puspita et al., 2016). Learners' interest in the learning media used is indirectly related to motivation, creativity, and interest in learning emerging from within the learners (E K E Sartono et al., 2022; Suryanda et al., 2019). The role of learning media as material engineering in concrete form is crucial because lower-grade elementary school students are not yet able to think abstractly. This makes it crucial to apply or use learning media in teaching. A media product slated for development needs to undergo a feasibility test. To validate the product, a set of validation instruments covering aspects from both content and media is required. The instrument to be created in this research takes the form of a questionnaire (Asyhari & Silvia, 2016; Paul & Cochran, 2020). Before deploying the instrument, the steps taken include testing the validity and reliability of the instrument to ensure its suitability for validating a learning media product. However, some developmental research resulting in a product only showcases the validity of the product without providing information about the results of the instrument tests used, making it challenging to determine whether the instrument has validity and reliability (Augusty Tae, 2006; Jing, 2022).

Based on the aforementioned context, the research problem in this study is how to develop validation instruments for learning media products based on design and media aspects, specifically for culturally based learning media, that are valid and reliable. Derived from the formulation of the problem above, the research objective is to generate validation instruments for learning media products based on design and media aspects, particularly for culturally based learning media, that exhibit both validity and reliability. The novelty of this study is the content of local culture-based learning media which is not yet widely used.

2. METHOD

This study utilizes the 3D (define, design, develop) research and development model (Luan et al., 2008). In the Define phase, relevant elements for validating design and learning media instruments are identified through literature reviews. The Design phase involves creating instruments by crafting statements aligned with the predetermined aspects established during the design stage. Subsequently, the Development phase encompasses performing tests for content validity and reliability to ensure the instruments are suitable for application. The instruments that have been developed undergo two assessments: expertise testing and empirical testing, aimed at establishing the values of validity and reliability. Expertise testing engages three experts with expertise in diverse fields: evaluation, language, and learning. Meanwhile, empirical testing is executed by conducting trials of the instruments with 20 participants, specifically elementary school teachers from the Golewa District, Ngada Regency, East Nusa Tenggara, Indonesia. Data collection involves the use of questionnaires for assessing media and learning design instruments. Data analysis techniques include validity and reliability tests using the Cronbach's Alpha test (Taber, 2018; Widiana et al., 2019). Content validation is conducted through expert evaluations of the content of design and learning media instruments.

This research utilizes a descriptive data analysis method. In this phase, data on instrument validity and reliability are detailed to provide a comprehensive overview of the developed instruments' capability to measure the suitability of learning media. This descriptive process aims to ensure that the instruments used have sufficient validity and reliability to assess the quality of learning media. Data analysis at the assessment instrument development stage is crucial to ensure that the instrument can provide accurate and reliable assessment results.

This analysis also allows researchers or instrument developers to make necessary improvements before the instrument is used on a larger scale (Kalkbrenner, 2021). Furthermore, data analysis is performed to consider and compare the findings of this research with the results of other relevant studies. This approach helps strengthen the generalizability of research findings and integrates the context of this research with literature and previous studies. Thus, the data analysis method used in this research is not only descriptive but also comparative to deepen the understanding and articulation of research findings.

3. RESULT AND DISCUSSION

Result

In this research, validity tests were conducted for two expert assessment instruments on learning media products. These instruments include the learning media expert assessment instrument and the learning design expert assessment instrument. The first instrument developed is the learning design expert assessment instrument. The learning design instrument is used to assess aspects of media utilization in learning and lesson planning. Expert assessments for the learning design instrument cover the fields of evaluation expertise, language expertise, and learning expertise. The assessments and expert feedback results are presented in Table 1.

Table 1. Expert Assessment of the Learning Design Evaluation Instrument

No	Indicator	Indicator description	Expert 1	Expert 2	Expert 3	Comment for revision
1	Clarity of learning objectives	Learning objectives are developed in accordance with basic competencies or similar terms. Learning objectives should also be measurable and realistically achievable.	Relevant	Relevant	Relevant	Learning objectives are formulated in accordance with basic competencies, measurable, and can be implemented realistically.
2	Relevance of learning objectives to the curriculum	Relevance of learning objectives to the applicable curriculum	Relevant	Relevant	Relevant	The learning objectives are clearly related to and in line with the applicable curriculum.
3	Scope and depth of learning objectives	Scope and depth of learning objectives. Learning objectives are specific and measure the intended learning achievements, in line with the needs and developmental levels of children.	Relevant	Relevant	Relevant	The learning objectives encompass specific aspects and measure learning achievements that are aligned with the needs and developmental levels of children.
4	Relevance of content to learning objectives	Relevance of material to learning objectives. The material has depth and precision that aligns with the learning objectives.	Relevant	Relevant	Relevant	The material must align with the learning objectives, with sufficient depth and coverage, suitable for the developmental stage of children.
5	Relevance of learning media	Developed learning media can be used to achieve established learning objectives.	Relevant	Relevant	Relevant	Learning media is designed to achieve the established learning objectives.
6	Providing learning motivation	Developed learning media can provide learning motivation for students.	Relevant	Relevant	Relevant	
7	Suitability of media with learning strategies	Appropriateness of the use of learning strategies is linked to the learning objectives intended to be achieved with the use of learning media.	Relevant	Relevant	Relevant	The learning strategies used align with the learning objectives and are integrated with the use of learning media.

No	Indicator	Indicator description	Expert 1	Expert 2	Expert 3	Comment for revision
8	Suitability of media with learning activities	The developed learning media can trigger student-centred learning activities.	Relevant	Relevant	Relevant	Learning media can stimulate student- centred learning activities.
9	Ease of learning steps	The ease of implementing learning steps. There are learning steps that use the developed learning media.	Relevant	Relevant	Relevant	The learning steps are easy to implement and effectively integrate learning media.
10	Learning sequence	The sequence of learning steps is systematically, sequentially, and logically implemented to achieve learning objectives.	Relevant	Relevant	Relevant	Learning steps are systematically, sequentially, and logically organized to achieve learning objectives.
11	Provision of examples and discussions	Clarity of explanations, discussions, provision of examples, simulations/tutorials, and discussion activities.	Relevant	Relevant	Relevant	The presentation of explanations, examples, simulations/practices, and discussion activities is clear and supports student understanding.
12	Learning assessment tools	Accuracy of assessment instruments used to measure learning success. Assessment instruments are relevant to learning objectives.	Relevant	Relevant	Relevant	The assessment instruments used are appropriate and relevant to the learning objectives.
13	Contextual and multicultural learning	Learning is conducted contextually. Learning incorporates Pancasila values, multiculturalism, and considers the language mastered by students (multilingual).	Relevant	Relevant	Relevant	Learning is conducted contextually, reflecting Pancasila values, multiculturalism, and considering the language mastered by students.
14	Learning feedback	There are feedback activities on the results of learning achievement assessments.	Relevant	Relevant	Relevant	
15	Completeness of learning planning	Completeness and quality of learning support materials (media usage guidelines). The design of the learning plan is compiled comprehensively and neatly.	Relevant	Relevant	Relevant	The design of the learning plan should be complete, neat, and include high-quality learning support materials (such as media usage guidelines).

The second instrument developed is the learning media expert assessment instrument. The learning design instrument is used to assess the physical, usage, and management aspects of the developed learning media. Expert assessments for the learning design instrument encompass the fields of evaluation expertise, language expertise, and learning expertise. The assessments and expert feedback results are presented in Table 2.

Table 2. Expert Assessment of the Learning Media Evaluation Instrument

No	Indicator	Indicator description	Expert 1	Expert 2	Expert 3	Comment for revision
1	Effective and efficient	The developed media can be effectively and efficiently utilized in learning.	Relevant	Relevant	Relevant	The developed learning media has the ability to provide effective learning outcomes while minimizing costs and

No	Indicator	Indicator description	Expert 1	Expert 2	Expert 3	Comment for revision
						efforts during implementation.
2	Reliable	The developed media has reliability, indicating whether the media can measure learning outcomes consistently when used repeatedly.	In-relevant	Relevant	Relevant	The developed media has high reliability and measures learning achievements, demonstrating the ability to consistently produce results when used repeatedly.
3	Maintainable	The developed media can be easily managed and stored.	Relevant	Relevant	Relevant	
4	Usability	The developed media is user-friendly and simple to use.	Relevant	Relevant	Relevant	
5	Accuracy of material selection	The materials for media development use appropriate and suitable resources.	Relevant	Relevant	Relevant	
6	Compatibility	The developed learning media can be used anywhere, both inside and outside the classroom.	Relevant	Relevant	Relevant	The developed learning media can be effectively used in various learning environments, both inside and outside the classroom.
7	Packaging	The developed media is integrated, created as a complete package, and easy to use.	Relevant	Relevant	Relevant	
8	Reusable	Some or all components of the learning media program can be reused to create other learning media.	Relevant	Relevant	Relevant	
9	Contextual	The developed media uses/presents materials that are easily accessible and available in the students' or school's surrounding environment, and it has local cultural value.	Relevant	Relevant	Relevant	
10	Attractiveness	The developed media has attractive colors, shapes, and usage methods.	Relevant	Relevant	Relevant	The developed media has visually appealing elements, colors, shapes, and usage methods.

From the expert assessment results, there are 13 improvement suggestions for the learning design expert assessment instrument and 4 improvement suggestions for the learning media expert assessment instrument. These suggestions and improvements are then used to enhance the statement items in the instruments.

Subsequently, an empirical test is conducted for both instruments. The empirical test includes the validity and reliability testing of the instruments. The first empirical test is on the learning design expert assessment instrument. The test results indicate that the Corrected Item-Total Correlation values > t_{table} (0.444). This means that all items in the learning design expert assessment instrument are valid, with a reliability value of 0.925, falling into the category of highly reliable. The empirical test results for the learning design expert assessment instrument are presented in Tables 3.

Table 3. Validity Scores of the Learning Design Expert Assessment Instrument

Instrument Code	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
LD1	53.9500	80.471	0.645	0.921
LD2	54.3500	75.924	0.706	0.918
LD3	54.4000	78.253	0.583	0.922
LD4	54.7000	74.221	0.615	0.923
LD5	54.1000	79.674	0.631	0.921
LD6	54.2000	75.642	0.613	0.922
LD7	53.9500	80.471	0.645	0.921
LD8	54.8000	73.221	0.739	0.917
LD9	54.8000	72.168	0.894	0.912
LD10	54.3500	75.924	0.760	0.917
LD11	54.4000	77.095	0.661	0.920
LD12	53.9000	80.832	0.593	0.922
LD13	54.0500	81.418	0.529	0.923
LD14	54.4500	77.629	0.612	0.921
LD15	54.4000	76.674	0.602	0.922

The second empirical test result is for the learning media expert assessment instrument. The test results indicate that the Corrected Item-Total Correlation values > t_{table} (0.444). This means that all items in the learning media expert assessment instrument are valid, with a reliability value of 0.946, falling into the category of highly reliable. The empirical test results for the learning media expert assessment instrument are presented in Tables 4.

Table 4. Validity Scores of the Learning Media Expert Assessment Instrument

Instrument Code	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
LM1	35.5500	26.892	0.904	0.934
LM2	35.6000	27.305	0.818	0.939
LM3	35.5000	27.947	0.731	0.943
LM4	35.5500	29.418	0.843	0.938
LM5	35.6000	29.937	0.709	0.943
LM6	35.4500	31.313	0.872	0.942
LM7	35.4500	29.418	0.843	0.938
LM8	35.8500	26.345	0.845	0.938
LM9	35.6500	30.976	0.611	0.947
LM10	35.3000	28.221	0.797	0.939

Discussion

Expert evaluation and empirical testing verify the relevance, validity, and high reliability of the media expert assessment tools and learning design. Particularly for culturally-based learning, these tools can be used as the foundation for evaluating locally produced cultural learning materials. When assessing how well learning media meet predetermined learning objectives, validation tools are essential. This assessment aids in determining whether or not students' comprehension and performance are improved by the media. Learning resources are expected to furnish students with educational content for effective learning. The content aspect of the material is considered highly suitable due to its clarity, relevance, thorough illustration, alignment with the syllabus and basic competencies, systematic design, correspondence to learning objectives, adherence to key concepts, and appropriateness for the intellectual development level of students. All these elements are meticulously crafted to facilitate comprehensive understanding among students. This aligns with prior research emphasizing the importance of aligning learning media with the content scope of the learning material (Ashaver, 2013; Widiana et al., 2020).

Validation instruments help gauge the extent to which learning media can achieve predetermined learning objectives (Sari et al., 2020). It helps assess whether the media does contribute positively to students' understanding and performance. Validation instruments help evaluate the extent to which content delivered through learning media is relevant to the learning material and students' needs (Paul & Cochran, 2020; Sari et al., 2020). This ensures that the presented material meets academic standards and curriculum requirements. Validation instruments help evaluate how well learning media can maintain student engagement. Engaging and relevant learning media can enhance students' motivation to learn (Kundu & Bej, 2021; Widiana et al., 2019).

Validation instruments also assist in measuring the accessibility and comprehensibility of learning media content by the target audience. This is crucial to ensure that the material can be accessed and understood by students. Validation ensures the consistency and uniformity of the delivery of learning material. Consistency in learning media can support students in building a solid understanding (Pardo-Garcia & Barac, 2020; Weninger et al., 2020).

Moreover, validation instruments may encompass an evaluation of the technical aspects and graphic design of learning media, including checking the functionality of technical features and the suitability of graphic design in supporting concept understanding (Hidayat et al., 2023; Suitianah & Sobandi, 2022). Validation also provides empirical evidence regarding the effectiveness of the learning media. With validation, teachers' confidence in using and recommending learning media in the learning process can increase. The role of validation instruments for learning outcomes, especially in the context of using culturally-based media, is crucial. Validation instruments for learning media help ensure that the media is relevant to the local cultural context and effective in achieving learning objectives. Validation will assess the extent to which learning media can accurately convey cultural messages and facilitate better understanding (Anggraini et al., 2020; Dam et al., 2019). Validation instruments help measure the attractiveness of learning media to learners. Media that aligns with local culture tends to motivate and interest learners, contributing to improved learning outcomes (Koltay, 2011; Nisrina et al., 2022).

Validation takes into account learners' characteristics and measures the extent to which locally-cultured learning media can be adapted to their learning needs (Samri et al., 2020; Wero et al., 2021). This ensures that learning media is not only suitable for local culture but is also accessible and well-understood by learners. Validation instruments for locally-cultured learning media will assess the integration of cultural values into the learning material. This ensures that cultural messages are not only conveyed formally but are also applied in a real learning context (Laksana et al., 2023, 2024).

Validation instruments can also design indicators or parameters that measure learning outcomes related to the use of locally-cultured media. This allows for a more systematic evaluation of the extent to which the media contributes to understanding, acceptance of cultural values, and the achievement of learning objectives. The validation process provides an opportunity to receive feedback from experts or stakeholders related to the quality of learning media (Boud & Dawson, 2021; Damyanov & Tsankov, 2018). Validation results can be used as a basis for improvement and further development to enhance the positive impact of media on learning outcomes (Lawe et al., 2019, 2021).

Validation instruments play a crucial role in developing learning media, making them a valuable tool to ensure that locally-cultured media not only meet quality standards but also have a positive impact on the learning process and the achievement of learning objectives (Rochmatin & Muchlis, 2023; E. Kus Eddy Sartono et al., 2022). Validation instruments help ensure that learning media is relevant to the local cultural context, measuring the extent to which media reflects local values, traditions, and wisdom. Thus, validation instruments ensure that learning has high relevance for learners (Darmana et al., 2021; Yuniarti & Dwikurnaningsih, 2022).

Learning media that aligns with local culture tends to be more attractive and motivating for learners. Through validation instruments, media developers can identify elements that can enhance learner engagement, providing a positive learning experience and motivation (Kusumaningrum & Masruro, 2022; Laksana, 2024). Validation also ensures that cultural messages conveyed through learning media are well-understood by learners, strengthening their understanding of the learning material and enhancing their ability to absorb the conveyed cultural values. Thus, validation instruments are not just assessments but also guidelines that help create a meaningful learning experience aligned with local culture (Elmahdi et al., 2018; Mertasari & Candiasa, 2022).

Furthermore, validation instruments help measure the extent to which learning media can be adapted to learners' needs. This is important to ensure that media is not only suitable for local culture but is also accessible and well-understood by learners with various levels of understanding (Khan & Vuopala, 2019; Tanti et al., 2021). Locally-cultured learning media can be a powerful tool for conveying cultural values and meaningful learning. Validation helps ensure that media is designed considering cultural aspects, making learning more effective and having a real impact on learners' understanding (Laksana, 2024; Suitianah & Sobandi, 2022).

Validation instruments play a crucial role in developing learning media, making them a valuable tool to ensure that locally-cultured media not only meet quality standards but also have a positive impact on the learning process and the achievement of learning objectives (Saputra et al., 2020; Yussanti & Dwikurnaningsih, 2020). Validation instruments help ensure that learning media is relevant to the local cultural context, measuring the extent to which media reflects local values, traditions, and wisdom. Thus, validation instruments ensure that learning has high relevance for learners (Pribowo, 2018; Sukadari et al., 2020).

The developed instruments have proven to be valid and reliable for use in validating a culturally based local learning media. The development of these instruments aligns with the findings of research conducted by previous study who found that validation instruments for culturally based local media fall into the category of

excellent (Mustofa et al., 2021). Other findings also indicate that a valid instrument can effectively measure learning achievements (Aka et al., 2018; Laksana et al., 2024; Widiana & Widiani, 2023).

With the production of adequate validation instruments, it is expected that developers and educators can be more confident in selecting, developing, and assessing locally-cultured learning media. Therefore, this research is expected to make a positive contribution to improving the quality of education in Indonesia and supporting efforts to preserve and develop local cultural wealth. Validation instruments for locally-cultured learning media can also be a key factor in ensuring that the media is not only of high quality but also has a significant positive impact on student learning outcomes.

4. CONCLUSION

Based on the outcomes of development and discussions, it can be inferred that this study effectively generated 15 statements as assessment instruments for learning design experts and 10 statements for learning media experts. The evaluation conducted by experts suggests that both instruments are deemed applicable for utilization within the research context. Furthermore, from an empirical standpoint, the instruments for learning media and design received high ratings in terms of validity and reliability, establishing their dependability for gauging and assessing the quality of the developed learning media. These results provide researchers confidence that the expert assessment instruments for learning design and media that were developed for this study not only meet research objectives but also serve as trustworthy instruments for evaluating the calibre and efficacy of design and learning media components. The findings of this study offer a solid basis for trusting the professional assessment tools created for media and learning design. These instruments, meticulously crafted through the research process, not only meet the stringent requirements of academic inquiry but also emerge as reliable tools for evaluating the effectiveness and quality of various components within design and learning media. The findings affirm the robustness of the assessment instruments, affirming their alignment with research standards and their utility as trustworthy measures for appraising the intricacies of design and learning media components. Hence, this conclusion asserts that the research not only successfully crafted valid and reliable instruments but also made a positive contribution to advancing culturally-based learning.

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